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QMC-CRYODPLX-0218 or QMC-CRYOTEE-0218

Cryogenic Superconducting Bias Diplexer, 2-18GHz

Features

- Bias Path: DC - 500 MHz
- RF Path: 2 - 18 GHz
- Works as a Bias-T with DC bandwidth
- OFHC Housing
- Superconducting bias inductor
- Operation to 10mK
- Low Insertion Loss. 0.5dB typical
- Low Return Loss, -15dB typical, 2-18 GHz
- SMA bias connector
- Stackable Design



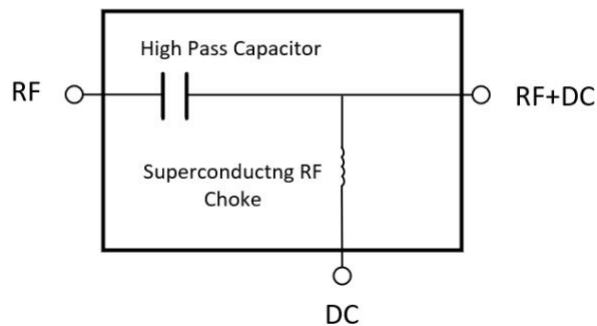
Description

These cryogenic superconducting bias diplexers allow for modulation up to 500 MHz on the DC port. With an RF bandwidth of 2-18 GHz, these devices can be used as bias tees with the advantage of significant modulation bandwidth possible on the DC port. Applications include pulsed-bias of amplifiers and qubit control. The RF inductor contains niobium-titanium filaments that will allow it to superconduct at temperatures below 9.7K for low power dissipation. The housings are fabricated from oxygen free copper, for excellent thermalization, and plated with gold.

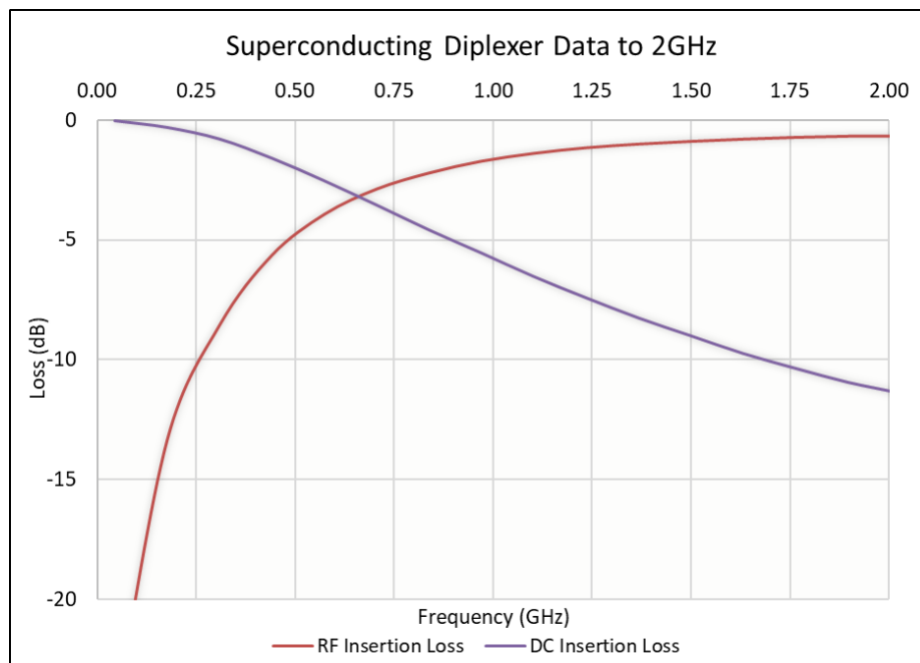
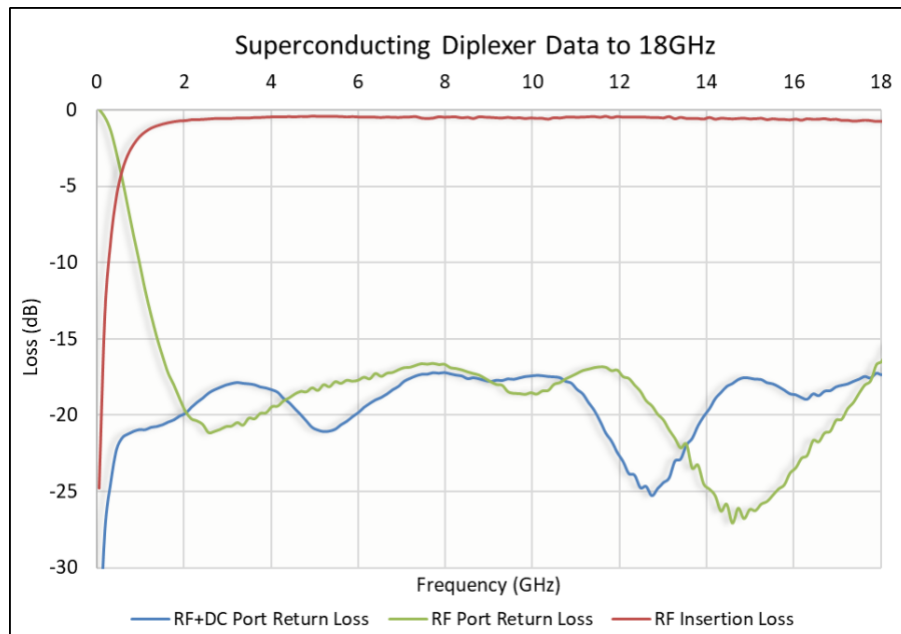
Specifications

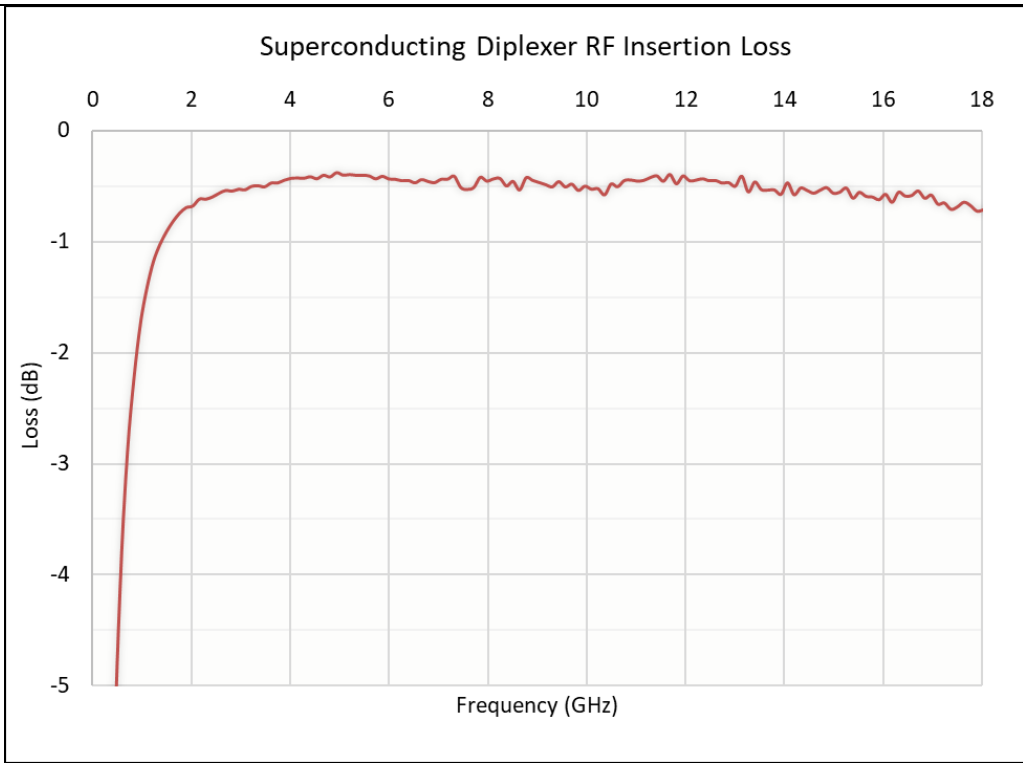
Parameter	Specification	Notes
Frequency Range	DC to 500 MHz (DC path) 2 to 18 GHz (RF path)	
Insertion Loss	0.5 dB typical, 2 GHz to 18 GHz	See plot
Return Loss	-15dB typical, 2 GHz to 18 GHz	See Plot
Connectors	RF+DC SMA (m) RF SMA (f) BIAS SMA (f)	
Max Voltage	50VDC	
Max Current	225 mA	

Block Diagram

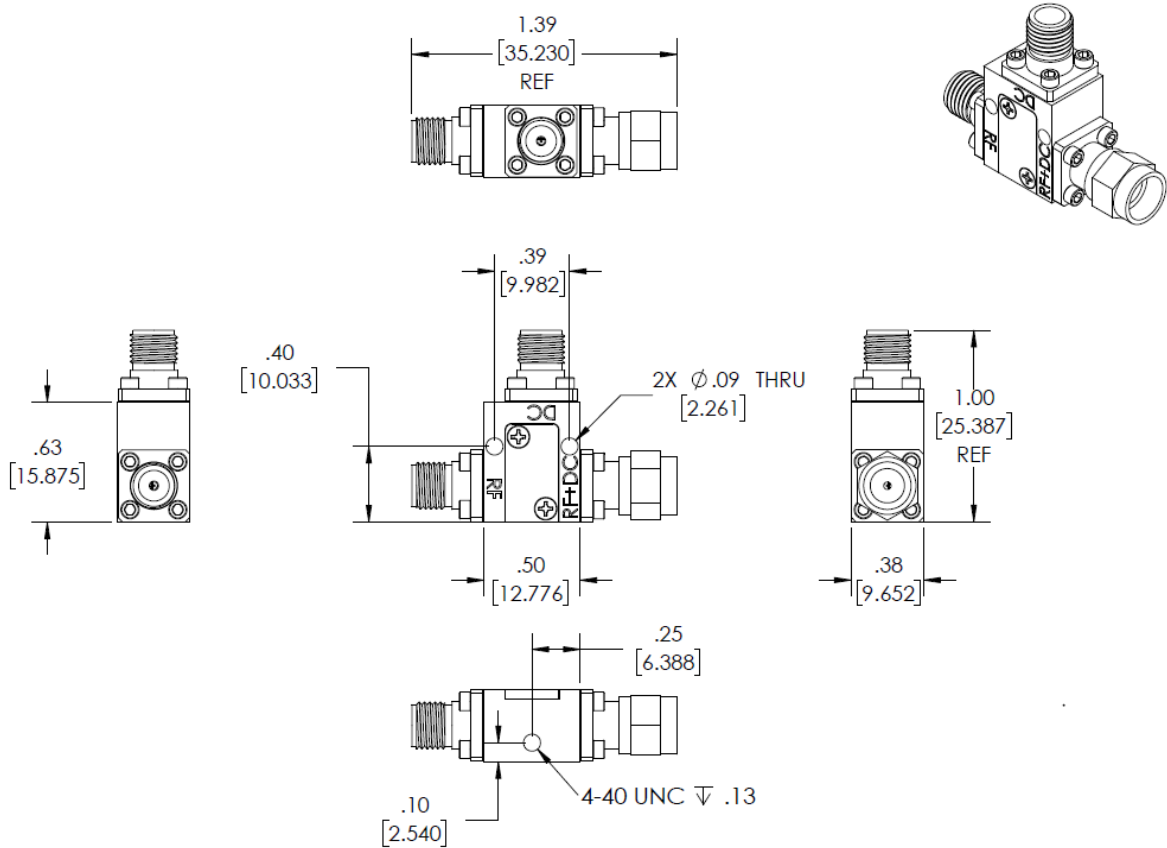


Measured Data





Outline Drawing, inches [mm]



Made in the USA

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